Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands	)	WT Docket No. 06-150
	)	
	)	
Implementing a Nationwide Broadband Interoperable Public Safety Network in the 700 MHz Band	)	PS Docket No. 06-229
	)	
	)	
	)	
Amendment of Part 90 of the Commission's Rules	)	WP Docket No. 07-100

THIRD REPORT AND ORDER AND FOURTH FURTHER NOTICE OF PROPOSED RULEMAKING REPLY COMMENTS OF AEROFLX INC.

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April 6, 2011

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INTRODUCTION

Aeroflex Inc. (Aeroflex) submits these reply comments in response to the Federal Communications Commission's (Commission) Fourth Further Notice of Proposed Rulemaking (Fourth Further Notice) regarding the 700 MHz spectrum block and the Nationwide Broadband Interoperable Public Safety Network (NBIPSN). Specifically, Aeroflex is responding to the questions of conformance testing and interoperability testing for LTE infrastructure equipment noted in paragraphs 108-116 in the Fourth Further Notice.

Aeroflex is a test equipment manufacturer with more than 20 years experience providing test equipment for public safety devices and networks. Additionally, Aeroflex is the foremost expert in radio access network (RAN) testing in LTE networks. Based on experience and expertise, Aeroflex would like to submit the attached white paper proposing a process for validating infrastructure equipment and deployment of LTE networks for the NBIPSN. An executive summary of the proposal can be found below.

EXECUTIVE SUMMARY

The Public Safety Communications Research (PSCR) program acts as an objective technical advisor and laboratory for critical public safety communication standards and technologies. As part of their role, PSCR will be deploying and operating a demonstration and evaluation LTE network for public safety broadband. This network will serve the dual purpose of demonstrating the technological capabilities and allow public safety entities to evaluate infrastructure vendor's equipment against a live public safety network.

Per FCC order, the PSCR is evaluating infrastructure equipment for waiver recipients in their demonstration network. Additionally, nearly $400 million has already been granted across 7 public safety entities for the initial network roll out and more monies will be granted via federal stimulus projects in the coming months. All mobile devices which connect to the public safety network will also be required to follow the same rigorous process as commercial devices. Mobile device vendors will need to submit their devices through the PTCRB process at an accredited PTCRB conformance laboratory both for radio frequency (RF) and protocol requirements.

On the infrastructure side, there is no such industry approved process today. In a typical commercial network, the network operator works with their infrastructure vendors to validate that their equipment conforms to both the industry requirements and the operator proprietary requirements. Since there is no single designated network operator in the public safety network, there is also no designated entity that will assure infrastructure equipment meets acceptable performance requirements.

This paper proposes a possible solution to this complex and critical challenge. The paper will describe the current commercial infrastructure testing process as well as detail how to leverage existing resources and organizations to create an acceptance process for public safety infrastructure.

This paper will not cover inter-vendor interoperability testing beyond how different network elements interoperate. The paper also does not make judgment on the merits of a network of networks versus a single network approach for implementation or management of the final network. The assumption throughout the paper is that there will be a network of networks each with a unique packet core and local governance. Finally, the paper does not aim to overtly address the issue of enforcement of compliance to the process as this is heavily influenced by both federal and regional legislation and outside the scope of a technical discussion.

The proposal entails only one major change to the current PSCR demonstration network process: there should be some pre-defined entrance criteria to the network. The public safety industry should have the same tools and safeguards as commercial operators. As proposed, the entrance criteria will be in the form of easily measurable key performance indicators (KPIs) created with assistance from industry and all testing will be performed by approved vendor labs and/or approved independent labs. Only once the vendor has passed the entrance criteria will they be given access to the PSCR network and only once they have gone through the PSCR network will they be approved to sell their equipment to public safety entities. Public safety entities who install network equipment without first going through the process could be subject to punitive action including any combination of withdrawal of funding, abrogation of spectrum or some type of fine. This will, of course, be subject to both federal and local legislation.

Implementing the straight-forward process will give public safety entities a level of confidence in the equipment they purchase and deploy, as well as help ensure the success of the public safety LTE network.

Respectfully Submitted,

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